

Amendments to the Claims

Please amend the claims as follows:

Cancel claims 1-34.

35. (new) A detector apparatus for analyzing light emitted from a fluorescent material, wherein the light is collected by a light collector and formed into an output beam for analysis, comprising

a means for collimating said output beam, the collimated output beam having a projected optical axis,

a plurality of dichroic mirrors disposed along the projected optical axis in a manner separating light at each mirror into a reflected beam and a transmitted beam, wherein, at each mirror, one of the reflected and transmitted beams is a transfer leg carrying the beam further to the next dichroic mirror and the other is a leg carrying light to a detector, wherein a majority of the dichroic mirrors receives light from a reflected beam coming from another dichroic mirror.

36. (new) The apparatus of claim 35 wherein all of the dichroic mirrors except one receive light from a reflected beam coming from a dichroic mirror.

37. (new) The apparatus of claim 35 wherein the number of dichroic mirrors is at least four.

38. (new) The apparatus of claim 35, wherein a plurality of dichroic mirrors are angled relative to an optical axis of the transfer leg or the output beam at an angle of 20° or less.

39. (new) The apparatus of claim 35, wherein a plurality of dichroic mirrors are angled relative to an optical axis of the transfer leg or the output beam at an angle between 5° and 20°.

40. (new) The apparatus of claim 35, wherein a plurality of dichroic mirrors are angled relative to an optical axis of the transfer leg or the output beam at an angle of about 11.25° .

41. (new) The apparatus of claim 35 wherein said detectors are arranged in a polygonal pattern having a first circumference and said dichroic mirrors are arranged in a polygonal pattern having a second circumference smaller than said first circumference.

42. (new) The apparatus of claim 41, further comprising a plurality of filters arranged in a polygonal pattern having a third circumference, wherein a filter is associated with each detector and said third circumference is greater than said second circumference but less than said first circumference.

43. (new) The apparatus of claim 35 wherein said dichroic mirrors are arranged such that said transfer legs carrying said beam from one dichroic mirror further to the next dichroic mirror follow a zigzag pattern.

44. (new) The apparatus of claim 35 wherein said means for collimating said output beam receives light by means of an optical fiber.

45. (new) The apparatus of claim 35, wherein said detectors are photomultiplier tubes or semiconductors.